

**Estradiol Valerate Exerts Neuroprotective Effects in Ischemic Rat
Brain when Administered after Middle Cerebral
Artery Occlusion**

**Seong Jin Yoo, Jeong Min Yu, Mi Young Youm, Do Rim Kim, Jee
Yun Kim, Sung Goo Kang[†]**

Department of Biology, Inje University, Kimhae 621-749. Korea

Stroke occurs when local thrombosis, embolic particle or the rupture of blood vessel interrupts the blood flow to the brain. β -estradiol 17-valerate has been reported to exert neuroprotective effects when administered before an ischemic insult. Recently, the pathophysiology of cerebral ischemia has been studied extensively in rat with various methods. In the present study, we investigate whether β -estradiol 17-valerate can protect against brain injury.

RNA samples were extracted from the hippocampus of female rat, reverse-transcription in the presence of [α -³²P] dATP. Differential gene expression profiles were revealed (Bone morphogenetic protein type 1A receptor, Protein disulfide isomerase, Leukemia inhibitor factor receptor, cytochrome bc-1 complex-x core P, thiol-specific antioxidant protein). RT-PCR was used to validate the relative expression pattern obtained by the cDNA array. The precise relationship between the early expression of recovery genes and stroke is a matter of further investigation.

This study was supported by the Korea Science and Engineering Foundation(KOSEF) through the Biohealth Products Research Center(BPRC), Inje University, Korea.

Key word) Middle Cerebral Artery occlusion(MCAo), MicroArray, Focal ischemia, Hippocampus, β -estradiol 17-valerate